Landsat 7 Educational Activity **Date:** _____

Finding Impact Craters with Landsat

Student Name: _____ Class Period: _____

Student Worksheet for Step 1:
When an Extraterrestrial Object Hits the Earth

You wouldn't hear it coming. A 100-ton extraterrestrial object hits the Earth at hypervelocity, more than 11 kilometers per second, and sometimes as fast as 20-25 km/sec. (Smaller objects slow down or are destroyed because of air resistance.) That's faster than sound (about 300 m/sec).

The object comes to a stop in about one hundredth of a second.

1. There is a rapid release of a tremendous amount of kinetic energy. What would be the effect of that rapid release of energy on the solid earth, the air, and living things? What forms might that energy take, and where might it go? Respond here:

Effects on rocks and soil: _____

_____

_____

Effects on the shape of the land (topography): _____

_____

_____

Effects on the air: _____

_____

_____

Effects on living things: _____

_____

_____

2. The energy release creates a shockwave stronger than any material it hits. What could be the effects of that shockwave on the rocks and soil, and on large bodies of water? Respond here:

_____

_____

3. What would be the effects of impact on the object itself? Would it remain intact (in one piece)? Respond here:

_____

_____